

## Work Permit # SS04-002S Work Order # Job# Activity#

1. Work requester fills out this section. [X] Standing Work Permit Requester: Located in C-A WCC's Log Date: 7-10-04 Dept/Div/Group: C-A Department Work Control Coordinator: Located in Work Control Log Start Date: 08-01-04 Est End Date:07-31-05 Brief Description of Work: ROUTINE ENTRY FOR INSPECTION, DATA COLLECTION, TOURS, OR SKILL OF THE CRAFT TASKS IN POSTED HIGH RADIATION BEAM LINE AREAS AT THE COLLIDER ACCELERATOR DEPARTMENT. Building: Bldg. 930 LINAC Tunnel (excluding BLIP Beam Line), Bldg. 942 Booster Ring, Bldg. 913 Equipment: Service Provider: AGS Ring, and Bldg. 956 NSRL Stub tunnel. 2. WCC, Requester/Designee, Service Provider, and ES&H (as necessary) fill out this section or attach analysis **ES&H ANALYSIS** Contamination **Radiation Concerns** ■ None [X] Activation ☐ Airborne [X] Radiation ☐ Other ☐ Special nuclear materials involved, notify Isotope Special Materials Group Fissionable materials involved, notify Laboratory Criticality Officer ☐ Ergonomics ☐ Transport of Haz/Rad Material Safety Concerns [X] None ☐ Confined Space\* Explosives ☐ Lead\* ☐ Penetrating Fire Walls ☐ Adding/Removing Walls or Roofs ☐ Corrosive ☐ Flammable ☐ Pressurized Systems ☐ Asbestos\* ☐ Cryogenic ☐ Fumes/Mist/Dust\* ☐ Material Handling ☐ Rigging/Critical Lift ☐ Beryllium\* Electrical ☐ Heat/Cold Stress ☐ Noise\* ☐ Toxic Materials\* ☐ Elevated Work\* ■ Non-ionizing Radiation\* ☐ Vacuum ☐ Biohazard\* ☐ Hydraulic ☐ Chemicals\* Excavation ☐ Lasers\* ☐ Oxygen Deficiency\* ☐ Other \* Does this work require medical clearance or surveillance from the Occupational Medicine Clinic? 

Yes [X] No **Environmental Concerns** ☐ Work impacts Environmental Permit No. X None ☐ Atmospheric Discharges (rad/non-rad) ☐ Land Use ☐ Soil activation/contamination ☐ Waste-Mixed ☐ Chemical or Rad Material Storage or Use ☐ Waste-Clean ☐ Waste-Radioactive ☐ Liquid Discharges Oil/PCB Management ☐ Waste-Hazardous ☐ Waste-Regulated Medical Cesspools (UIC) ☐ High water/power consumption ☐ Spill potential ☐ Waste-Industrial ☐ Underground Duct/Piping Other Waste disposition by: Pollution Prevention (P2)/Waste Minimization Opportunity: [X] None  $\square$  Yes **FACILITY CONCERNS** [X] None ☐ Electrical Noise ☐ Potential to Cause a False Alarm ☐ Vibrations ☐ Access/Egress Limitations ☐ Impacts Facility Use Agreement □ Temperature Change ☐ Other ☐ Configuration Control ☐ Maintenance Work on Ventilation Systems Utility Interruptions WORK CONTROLS **Work Practices** ☐ None □ Exhaust Ventilation ☐ Spill Containment ☐ Security (see Instruction Sheet) [X] Lockout/Tagout ☐ Back-up Person/Watch ☐ HP Coverage ☐ Posting/Warning Signs Other ☐ Time Limitation ☐ Scaffolding-requires ☐ Barricades ☐ Warning Alarm (i.e. "high level") ☐ IH Survey inspection **Protective Equipment** ☐ Ear Plugs ☐ Gloves ☐ Lab Coat ☐ Safety Glasses None ☐ Coveralls ☐ Ear Muffs ☐ Goggles Respirator ☐ Safety Harness ☐ Disposable Clothing ☐ Face Shield ☐ Hard Hat ☐ Shoe Covers ☐ Safety Shoes ☐ Other Permits Required (Permits must be valid when job is scheduled.) ☐ Impair Fire Protection Systems ■ None ☐ Cutting/Welding ☐ Concrete/Masonry □ Digging/Core Drilling [X] Rad Work Permit-RWP No RWP-04-002 Penetration ☐ Confined Space Entry ☐ Electrical Working Hot ☐ Other Dosimetry/Monitoring ■ None ☐ Heat Stress Monitor ☐ Real Time Monitor [X] TLD Noise Self-reading Pencil ☐ Air Effluent ■ Waste Characterization Survey/Dosimeter Dosimeter [X] Self-reading Digital O<sub>2</sub>/Combustible Gas ☐ Ground Water ☐ Other Dosimeter ☐ Liquid Effluent Sorbent Tube/Filter Pump ☐ Passive Vapor Monitor Training Requirements (List below specific training requirements) Radiation Worker I. C-A Access Training. Based on analysis above, the Walkdown Team determines the risk, complexity, and If using the permit when all hazard ratings are low, only the following need coordination ratings below: to sign: ( Although allowed, there is no need to use back of form) ES&H Risk Level: WCC: ☐ Low [X] Moderate ☐ High Date: Complexity Level: Service Provider: Date: [X] Low ☐ Moderate ☐ High Work Coordination: ☐ High Date: [X] Low ☐ Moderate Authorization to start (Departmental Sup/WCC/Designee)

3. Both work requester and service provider contribute to work plan (use attachments for detailed plans)

Work Plan: (procedures, timing, equipment, and personnel availability need to be addresses)

Estimated dose shall be considered by the WCC prior to each job. Dose estimates will not exceed 20mRem per person per job or 20mRem per entry, and collective dose shall not exceed 200 person-mRem.

This permit is not intended for handling or exposure to tritiated water, unapproved alteration of radiation barriers, or for the potential dispersal of radioactive materials.

A trained Radiation Worker may escort visitors. Permission is required from the C-A Safety Division Head (x5272)

## READ ALL POSTINGS, MANY LOCATIONS REQUIRE ACTIVATION CHECKS PRIOR TO REMOVING ITEMS

| Special Working Conditions:  |                             |                                |      |            |             |        |       |  |
|--|-----------------------------|--------------------------------|------|------------|-------------|--------|-------|--|
|  |                             |                                |      |            |             |        |       |  |
| Operational Limits Imposed: No entry in to areas greater than 1 R/Hr. Review posted survey of area as applicable.  |                             |                                |      |            |             |        |       |  |
| Post Work Testing Required: Follow exit requirements on area postings (Activation Check may be Required)   |                             |                                |      |            |             |        |       |  |
| Job Safety Analysis Required: ☐ Yes [X] No Walkdown Required: ☐ Yes [X] No   |                             |                                |      |            |             |        |       |  |
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| <b>Reviewed by:</b> Primary Reviewer will determine the size of the review team and the other signatures required based on hazards and job complexity. Primary Reviewer signature means that the hazards and risks that could impact ES&H have been identified and will be controlled according to BNL requirements.   |                             |                                |      |            |             |        |       |  |
| <u>Title</u>   | Name (print)                | <u>Signature</u>               | L    | ife #      | <u>Date</u> |        |       |  |
| Primary Reviewer   | Peter Cirnigliaro           | Signature on file              | le 2 | 21868      |             |        |       |  |
| FS Representative  | Paul Bergh                  | h Signature on file            |      | 19773      |             |        |       |  |
| Other  |                             |                                |      |            |             |        |       |  |
| Other  |                             |                                |      |            |             |        |       |  |
| Work Control Coordinator   | Located in Work Control Log |                                |      |            |             |        |       |  |
| Service Provider   |                             |                                |      |            |             |        |       |  |
|  | Review Done: [X] in series  | ☐ team                         |      |            |             |        |       |  |
| 4. Job site personnel fill out this section.   |                             |                                |      |            |             |        |       |  |
| Note: Signature indicates personnel performing work have read and understand the hazards and permit requirements (including any attachments).  |                             |                                |      |            |             |        |       |  |
| Job Supervisor: Contractor Supervisor:   |                             |                                |      |            |             |        |       |  |
| Workers: Located in Work Control Log   | Life#:                      | Life#:                         |      | Workers:   |             | Life#: |       |  |
|  |                             |                                |      |            |             |        |       |  |
| Workers are encouraged to provide feedback on ES&H concerns or on ideas for improved job work flow. Use feedback form or space below.  |                             |                                |      |            |             |        |       |  |
| 5. Departmental Job Supervisor, Work Control Coordinator/Designee  |                             |                                |      |            |             |        |       |  |
| Conditions are appropriate to start work: (Permit has been reviewed, work controls are in place and site is ready for job.)  |                             |                                |      |            |             |        |       |  |
| Name: Refer to C-A OPM-ATT   | 2.28.a , Meetings Diagra    | , Meetings Diagrams and Tables |      | Signature: |             | Life#: | Date: |  |
|  |                             |                                |      |            |             |        |       |  |
| 6. Departmental Job Supervisor, Work Requester/Designee determines if Post Job Review is required. Yes [X] No  Post Job Review (Fill in names of reviewers)  |                             |                                |      |            |             |        |       |  |
| Name:  |                             | Life#:                         |      | Date:      |             |        |       |  |
| Name:  | Signature:                  | Signature:                     |      | Life#:     |             | Date:  |       |  |
| Ognicio. Liu/i. Duto.  |                             |                                |      |            |             |        |       |  |
| 7. Worker provides feedback.  Worker Feedback (use attached sheets as necessary)   |                             |                                |      |            |             |        |       |  |
| a) WCM/WCC: Is any feedback required?  Yes [X] No b) Workers: Are there better methods or safer ways to perform this job in the future?  Yes No  |                             |                                |      |            |             |        |       |  |
| 8. Closeout: Work Control Coordinator (authorizing dept.) checks quality of completed permit and ensures the work site is left in an acceptable condition. (WCC can delegate clean up of work area to work supervisor)   |                             |                                |      |            |             |        |       |  |
| Name: Signature:   |                             | Life#: Dat                     |      |            | Date:       |        |       |  |
| Comments:  |                             |                                |      |            |             |        |       |  |

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